

NCR 19-7580

5164561



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D135-1027-151
Job Sheet 190575



Part No: D135-1027-151

Job Qty: 1 pcs

Part Name: Std Height Fwd Crosstube



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/11/19

Job Tracking No:

Due Date: 3/29/19

Created By: Jesse White

Type: Stock

Description: SIOP

Note: D135-1027-151 REV.D IPP REV:A 17.01.24 NEW ISSUE DD VERF:JLM IPP REV:B 17.12.14 AS PER DWG
REV.C DD VERF:JFS IPP REV:C 18.11.09 AS PER DWG REV.D DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier Lead Time		
100	Handfinish - 1 - Chemical	1 pcs	3/29/19	3/29/19	0.00	0.00	Handfinish - 1 - 1		
							Handfinish - 1 - 2		
							Handfinish - 1 - 3		
							Handfinish - 1 - 4		
							Handfinish - 1 - 5		
							Handfinish - 1 - 6		
							Handfinish - 1 - 7		
							Handfinish - 1 - 8		
							Handfinish - 1 - 9		
							Handfinish - 1 - 10		
							Handfinish - 1 - 11		
							Handfinish - 1 - 12		
							Handfinish - 1 - 13		
							Handfinish - 1 - 14		
							Handfinish - 1 - 15		
							Handfinish - 1 - 16		
							Handfinish - 1 - 17		
							Handfinish - 1 - 18		
							Handfinish - 1 - 19		
							Handfinish - 1 - 20		
							Handfinish - 1 - 21		
							Handfinish - 1 - 22		
105	QC 7	1 pcs	3/29/19	3/29/19	0.00	0.00	QC 7 - 10		
							QC 7 - 13		
							QC 7 - 14		
							QC 7 - 15		
							QC 7 - 17		
							QC 7 - 18		
							QC 7 - 19		
							QC 7 - 2		

ART

ROSPACE

er No: S164561

35 - 1027 - 151

190575

o/Batch: S164561

0

8:

Date: 03/21/19

Dart Aerospace Ltd.

1270 Aberdeen Street

Hawkesbury, ON K64 1K7

CANADA

TEL.: 1 813 832 - 6200

Email: sales@dartaero.com

www.dartaerospace.com

Plex 2/11/19 1:07 PM dart.white.jesse

Plex 2/11/19 1:07 PM dart.white.jesse

2/11/2019

[Dart Hawkesbury] Job Sheet - White, Jesse

					QC 7 - 28	
					QC 7 - 3	
					QC 7 - 30	
					QC 7 - 34	
					QC 7 - 36	
					QC 7 - 37	
					QC 7 - 41	
					QC 7 - 47	
					QC 7 - 48	
					QC 7 - 51	
					QC 7 - 58	
					QC 7 - 59	
					QC 7 - 6	
					QC 7 - 60	
					QC 7 - 9	
					QC 7 - 68	
					QC 7 - 50	
					QC 7 - 67	
110	Purchasing	1 pcs	3/29/19	0.00 0.00	Purchasing - 1	03/21/2019 PL
					Purchasing - 2	
					Purchasing - 3	
120	Packaging 2-1 - Recelve - B4B	1 pcs	3/29/19	0.00 0.00	Packaging 2 - 1 - B4B	
					Packaging 2 - 2 - B4B	
					Packaging 2 - 3 - B4B	
					Packaging 2 - 5 - B4B	
					Packaging 2 - 4 - B4B	
					Packaging 2 - 6 - B4B	
					Packaging 2 - 7 - B4B	
					Packaging 2 - 8 - B4B	
					Packaging 2 - 9 - B4B	
					Packaging 2 - 10 - B4B	
					Packaging 2 - 11 - B4B	
					Packaging 2 - 12 - B4B	
					Packaging 2 - 13 - B4B	
					Packaging 2 - 14 - B4B	
					Packaging 2 - 15 - B4B	
					Packaging 2 - 16 - B4B	
					Packaging 2 - 17 - B4B	
					Packaging 2 - 18 - B4B	
					Packaging 2 - 19 - B4B	
					Packaging 2 - 20 - B4B	
					Packaging 2 - 21 - B4B	
					Packaging 2 - 22 - B4B	
					Packaging 2 - 23 - B4B	
					Packaging 2 - 24 - B4B	
					Packaging 2 - 25 - B4B	
					Packaging 2 - 26 - B4B	
					Packaging 2 - 27 - B4B	
					Packaging 2 - 28 - B4B	
					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
130	QC 6	1 pcs	3/29/19	0.00 0.00	QC 6 - 42	
					QC 6 - 9	

Plex 2/11/19 1:07 PM dart.white.jesse

2/11/2019

[Dart Hawkesbury] Job Sheet - White, Jesse

133 Crosstubes - 2 - B4B	1 pcs	3/29/19	0.00 1.00	QC 6 - 68	
				QC 6 - 61	
				Crosstubes - 1 - B4B	
				Crosstubes - 2 - B4B	GP 19-06-25
135 QC 5	1 pcs	3/29/19	0.00 0.00	Crosstubes - 3 - B4B	
				QC 5 - 10	
				QC 5 - 12	
				QC 5 - 17	
				QC 5 - 18	
				QC 5 - 19	
				QC 5 - 22	
				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 42	
				QC 5 - 43	
				QC 5 - 49	
				QC 5 - 51	
				QC 5 - 58	DAS
				QC 5 - 68	JUN 25 2019 68
				QC 5 - 9	9-89
				QC 5 - 50	
				QC 5 - 30	
136 Crosstubes - 3 - B4B	1 pcs	3/29/19	0.00 1.00	Crosstubes - 1 - B4B	
				Crosstubes - 2 - B4B	B3 6/24/2019
				Crosstubes - 3 - B4B	
138 QC 15	1 pcs	3/29/19	0.00 0.00	QC 15 - 12	
				QC 15 - 3	
				QC 15 - 47	
				QC 15 - 49	DAS
				QC 15 - 58	JUL 1 8 2019 40
				QC 15 - 9	9-89
140 Outsource - 2 - NDT per QSI038	1 pcs	3/29/19		SKY002-VC	5 2019-07-19
150 Packaging 2-2 - Receive - B4B	1 pcs	3/29/19	0.00 0.00	Packaging 2 - 1 - B4B	
				Packaging 2 - 2 - B4B	
				Packaging 2 - 3 - B4B	
				Packaging 2 - 5 - B4B	JUL 19 2019
				Packaging 2 - 4 - B4B	
				Packaging 2 - 6 - B4B	
				Packaging 2 - 7 - B4B	
				Packaging 2 - 8 - B4B	
				Packaging 2 - 9 - B4B	
				Packaging 2 - 10 - B4B	
				Packaging 2 - 11 - B4B	
				Packaging 2 - 12 - B4B	
				Packaging 2 - 13 - B4B	
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	

Plex 2/11/19 1:07 PM dart.white.jesse

2/11/2019

[Dart Hawkesbury] Job Sheet - White, Jesse

					Packaging 2 - 27 - B4B	
					Packaging 2 - 28 - B4B	
					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
					QC 6 - 42	
					QC 6 - 9	
160 QC 6	1 pcs	3/29/19	0.00	0.00	QC 6 - 68	
					QC 6 - 61	
					Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
					QC 21 - FG - 21	
					QC 21 - FG - 70	
					QC 21 - FG - 53	
180 QC 21 - FG	1 pcs	3/29/19	0.00	0.00		

DAS
40
9-89
JUL 19 2019

AS 19-7-19

DAS
21
9-89

JUL 22 2019

Part Op 100 - Alodine prior to sending the extrusion to an outside vendor.

Descriptions: 105 - QC7-Inspect Chemical Conversion Coat

110 - Purchasing - Issue P/O to Tube Caron: 042567 Manufacture D135-1027-151 as per dwg (Bend, Remove excess material after bending) **Ship extrusion D6025-120** ***AS PER DWG NOTE 10, EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.*** Material release note is required

120 - Receive & Inspect for Damage & Mat'l Certs - Ensure material release note is attached

Plex 2/11/19 1:07 PM dart.white.jesse

2/11/2019

[Dart Hawkesbury] Job Sheet - White, Jesse

- 130 - QC6- All purchased or subcontracted products
 133 - Crosstubes - DRILL ALL HOLES AS PER DWG USING DRILL FIXTURE.
 135 - QC5- Inspect part completeness to step on W/O
 136 - Crosstube Grinding Booth - REMOVE ALL MARK AS PER DWG
 138 - QC15- Crosstube Dimensional Check
 140 - ISSUE P/O: _____ C OF C IS REQUIRED
 150 - Receive & Inspect for Damage & Mat'l Certs - C OF C IS REQUIRED
 160 - QC6- All purchased or subcontracted products
 170 - Identify as per dwg & Stock Location: LG050
 180 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6025-120	Crosstube Material	1 Ea (1 ea)	100-Handfinish - 1 - Chemical	<u>5152385</u>
D135-1027-151P	Std Height Fwd Crosstube	1 pcs (1 ea)	120-Packaging 2-1 - Receive - B4B	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Handfinish - 1 - Chemical	D6025-120	1	54	0
120-Packaging 2-1 - Receive - B4B	D135-1027-151P	1	0	0

Part Specifications

Specifications could not be found.

Plex 2/11/19 1:07 PM dart.white.jesse

DAS
10
9-89DAS
10
9-89

PURCHASE ORDER



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042567



Supplier: TUB001-VC
Tube Caron Inc.
99 Louis-Joseph-Doucet Street
Lanoraie
QC
JOK 1EO Canada
Phone: 450-887-2766
Fax: 450-887-2897

PO No: PO042567
PO Date: 2/11/19
Due Date: 3/22/19
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
10	190567	D135-1027-253	Mid Height Aft Crosstube (Purchasing) Issue P/O to Tube Caron: Manufacture D135-1027-253 as per dwg (Bend, Remove excess material after bending) **Ship extrusion D6027-115** ***AS PER DWG NOTE 10, EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.*** Material release note is required	Firmed -	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00

1 X MAR 21 2019

Line Item Note REV C

190568	1 X MAR 21 2019	Firmed -	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
190569	1 X MAR 21 2019	Firmed -	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
191900	1 X MAR 21 2019	Firmed -	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
191901	1 X MAR 21 2019	Firmed -	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
Sub Total:				5	0	5		\$1,500.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042567



Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
12	190489	D135-1027-251	Std Height Aft Crosstube Issue P/O to Tube Caron: Manufacture D135-1027-251 as per dwg (Bend, Remove excess material after bending) **Ship extrusion D6026-110** ***AS PER DWG NOTE 10, EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.*** Material release note is required	Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
1X MAR 21 2019 											
Line Item Note REV D											
190571	1X	MAR 21 2019	Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00	
190572	1X	MAR 21 2019	Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00	
191903	1X	MAR 21 2019	Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00	
191905	1X	MAR 21 2019	Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00	
191907	1X	MAR 21 2019	Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00	
Sub Total:						6	0	6	\$1,800.00		



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042567



Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	190560	D135-1027-153	Mid Height Fwd Crosstube Issue P/O to Tube Caron: Manufacture D135-1027-153 as per dwg (Bend, Remove excess material after bending) **Ship extrusion D6025-120** ***AS PER DWG NOTE 10, EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.*** Material release note is required	Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
<i>1 X MAR 21 2019</i>											
Line Item Note	REV B										
190562	<i>1 X MAR 21 2019</i>			Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
190564	<i>1 X MAR 21 2019</i>			Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
191909	<i>1 X MAR 21 2019</i>			Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
191910	<i>1 X MAR 21 2019</i>			Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
Sub Total:							5	0	5		\$1,500.00

PURCHASE ORDER



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042567



Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4	190575	D135-1027-151	Std Height Fwd Crosstube Purchasing - Issue P/O to Tube Caron: Manufacture D135-1027-151 as per dwg (Bend, Remove excess material after bending) **Ship extrusion D6025-120** ***AS PER DWG NOTE 10, EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.*** Material release note is required	Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
DAS 9 9-89 MAR 21 2019											
Line Item Note REV D											
	190576			Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
	191908			Firmed	-	3/22/19	1 pcs	0 pcs	1 pcs	\$300.00/pcs	\$300.00
Sub Total:							3	0	3		\$900.00

Grand Total: \$5,700.00

Order Notes

- Procurement Quality Clauses
- A005 right of entry
 - A012 chemical and physical test report
 - A016 personnel qualification
 - A017 raw material identification (as applicable)
 - A022 Apical Processing
 - A024 process certifications
 - A026 certification of material conformance
 - A041 quality management system
 - A042 dart notification by supplier
 - A043 retention of quality documents
 - A048 counterfeit parts avoidance, detection, mitigation and disposition program
 - A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 3/21/19 12:52 PM dart.Lussier.Patrick

**SHIPPING BILL****BOL 14944****13/03/2019****Tube Caron Inc.**

99 Louis-Joseph-Doucet
Lanoraie, QC, Canada
J0K 1E0
Phone: 450-887-2766

Fax: 450-887-2897

Ship To:

Dart Aerospace Ltd
1270 Aberdeen Street
Hawkesbury, ON, Canada
K6A 1K7

Phone : 613-632-1053

Fax : 613-632-4443

Sold To:

Dart Aerospace Ltd
1270 Aberdeen Street
Hawkesbury, ON, Canada
K6A 1K7

Phone : 613-632-5200

Fax : 613-632-4443

Third Party Billing:

Ln	Item	Qty	Po	Job	Weight	UOM
1	PALETTE					
	D135-1027-151 REV D	1	PO042567	J21867-11	20.00	Pounds
	D135-1027-151 REV D	1	PO042567	J21867-12	13.36	Pounds
	D135-1027-151 REV D	1	PO042567	J21867-16	13.36	Pounds
	D135-1027-153 REV B	1	PO042567	J21867-10	13.36	Pounds
	D135-1027-153 REV B	2	PO042567	J21867-15	14.57	Pounds
	D135-1027-153 REV B	1	PO042567	J21867-8	29.14	Pounds
	D135-1027-153 REV B	1	PO042567	J21867-9	14.57	Pounds
	D135-1027-251 REV D	1	PO042567	J21867-5	14.57	Pounds
	D135-1027-251 REV D	1	PO042567	J21867-6	16.21	Pounds
	D135-1027-251 REV D	1	PO042567	J21867-6	16.21	Pounds
2	PALETTE					
	D135-1027-251 REV D	3	PO042567	J21867-14	20.00	Pounds
	D135-1027-251 REV D	1	PO042567	J21867-7	48.64	Pounds
	D135-1027-253 REV C	1	PO042567	J21867-1	16.21	Pounds
	D135-1027-253 REV C	2	PO042567	J21867-13	19.81	Pounds
	D135-1027-253 REV C	1	PO042567	J21867-2	39.62	Pounds
	D135-1027-253 REV C	1	PO042567	J21867-3	19.81	Pounds
	D135-1027-253 REV C	1	PO042567	J21867-3	19.81	Pounds
	D135-1027-253 REV C	1	PO042567	J21867-4	19.81	Pounds

Carrier:**Phone:****Way Bill:****Journey Freight**

1-888-633-1252 #3221

Fob:**Freight Charges:**

Fob Lanoraie

Collect

Total Of Packages :

2 PALETTES

96 X 32 X 36

96 X 32 X 36

Total Weight:

369.06 #

Shipper : Tube Caron Inc.

Audrey Tanguay
Not Applicable For Insurance Purposes

14-03-2019

Declared Value :

(No Additional Insurance Required)

CERTIFICATE OF CONFORMANCE

CUSTOMER : Dart Aerospace

DATE : March 21, 2019

P.O.# PO042567

I certify that the following parts were manufactured to the specifications stated on the drawings listed below.

Note: Material for manufacturing of parts is provided by Dart Aerospace.

PART NO.	QTY.	DRAWING NO. / REV.
D135-1027-253 ✓ MID HEIGHT AFT XTUBE	6 ✓	D135-1027-253 / REV.C
D135-1027-153 ✓ MID HEIGHT FWD XTUBE	5 ✓	D135-1027-153 / REV.B
D135-1027-151 ✓ STD HEIGHT FWD XTUBE	3 ✓	D135-1027-151 / REV.D
D135-1027-251 ✓ STD HEIGHT AFT XTUBE	6 ✓	D135-1027-153 / REV.D

Sincerely,

Kevin Gadoury

Kevin Gadoury

DART AEROSPACE LTD		Work Order: 190575
Description: STD HEIGHT FWD CROSSTUBE		Part Number: D135-1027-151
Inspection Dwg: D135-1027-151 Rev: C		Page 1 of 2

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.700" TYP	+/-0.005"					
8.93" TYP	+/-0.030"					
2.24" REF	+/-0.030"					
2.75" TYP	+/-0.030"					
Ø.194" THUR 2PL	+0.006" -0.001"					
17.0" 2PL	+/-0.100"					
Ø.313" THUR 2PL	+0.006" -0.001"					
Ø.472" THUR 4PL	+0.006" -0.001"					

WALL THICKNESS MEASUREMENTS

LOCATION FROM CL	DWG DIM	R1	R2	R3	R4				
CL	0.134"								
21"	0.134"								
21"	0.134"								
CENTER OF BEND	0.134"								
CENTER OF BEND	0.134"								

OUTSIDE DIAMETER MEASUREMENTS

Location	DWG DIM	M1	M2				
CL	3.543"						
CENTER OF BEND	3.543"						
CENTER OF BEND	3.543"						

Crushing

	SIDE A	SIDE B
MAX 2%	34%	46%

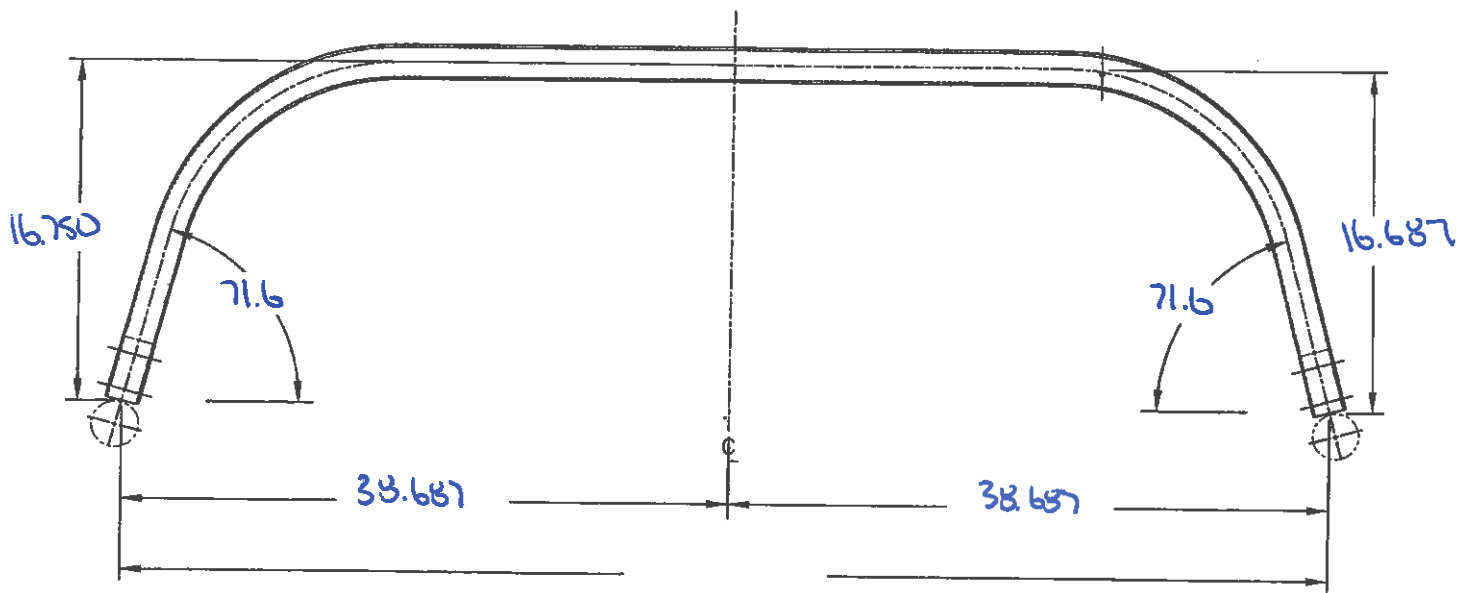
TWIST

	SIDE A	SIDE B
MAX 0.25"		

R116

DART AEROSPACE LTD		Work Order:	190575
Description: STD HEIGHT FWD CROSSTUBE		Part Number:	D135-1027-151
Inspection Dwg: D135-1027-151 Rev: C		Page 2 of 2	

Required Dimension	Min	Max
Height	16.54"	16.80"
1/2 Span	38.66"	38.92"
Angle	70°	72°
Total Span	77.32"	77.84"
Bending Passes		
Crushing	0%	2%



Measured by:		Checked by:		QC Inspector:	
Date:		Date:		Date:	

Engineering Approval: (If necessary)		Date:	
--	--	--------------	--

Rev	Date	Change	Revised by	Approved
A	18/01/16	New Issue	ED	

PNT1 - PNT5 (XAXIS)

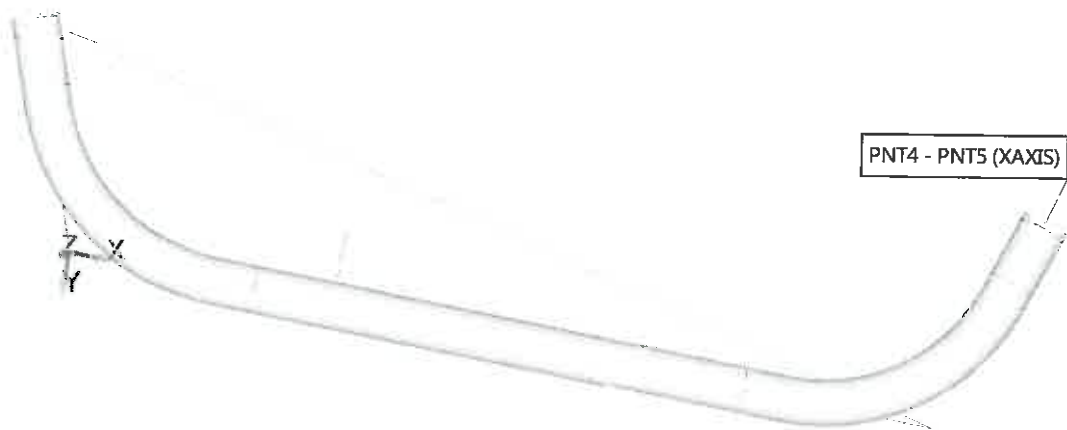
CYL2 - CYL1

CYL3 - CYL2

CYL2 - PNT4 (YAXIS)

CYL2 - PNT1 (YAXIS)

podmis		PART NAME : D135-1027-151_Pilage				mars 09, 2019		11:58	
		REV NUMBER : Rev.C		SER NUMBER : 5164561		STATS COUNT : 1			
∠		DEG	ANGL1 - CYL2 TO CYL1						
AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL			
A	71.0000	0.5000	0.5000	71.0555	0.0555	0.0000			
∠		DEG	ANGL3 - CYL3 TO CYL2						
AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL			
A	71.0000	0.5000	0.5000	71.0366	0.0366	0.0000			
↔		IN	DIST1 - PNT1 TO PNT4 (XAXIS)						
AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL			
M	77.5800	0.2500	0.2500	77.5162	-0.0638	0.0000			
↔		IN	DIST2 - CYL2 TO PNT1 (YAXIS)						
AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL			
M	16.6700	0.1300	0.1300	16.6882	0.0182	0.0000			
↔		IN	DIST3 - CYL2 TO PNT4 (YAXIS)						
AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL			
M	16.6700	0.1300	0.1300	16.6191	-0.0509	0.0000			
↔		IN	DIST4 - PNT1 TO PNT5 (XAXIS)						
AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL			
M	38.7900	0.1300	0.1300	38.7581	-0.0319	0.0000			



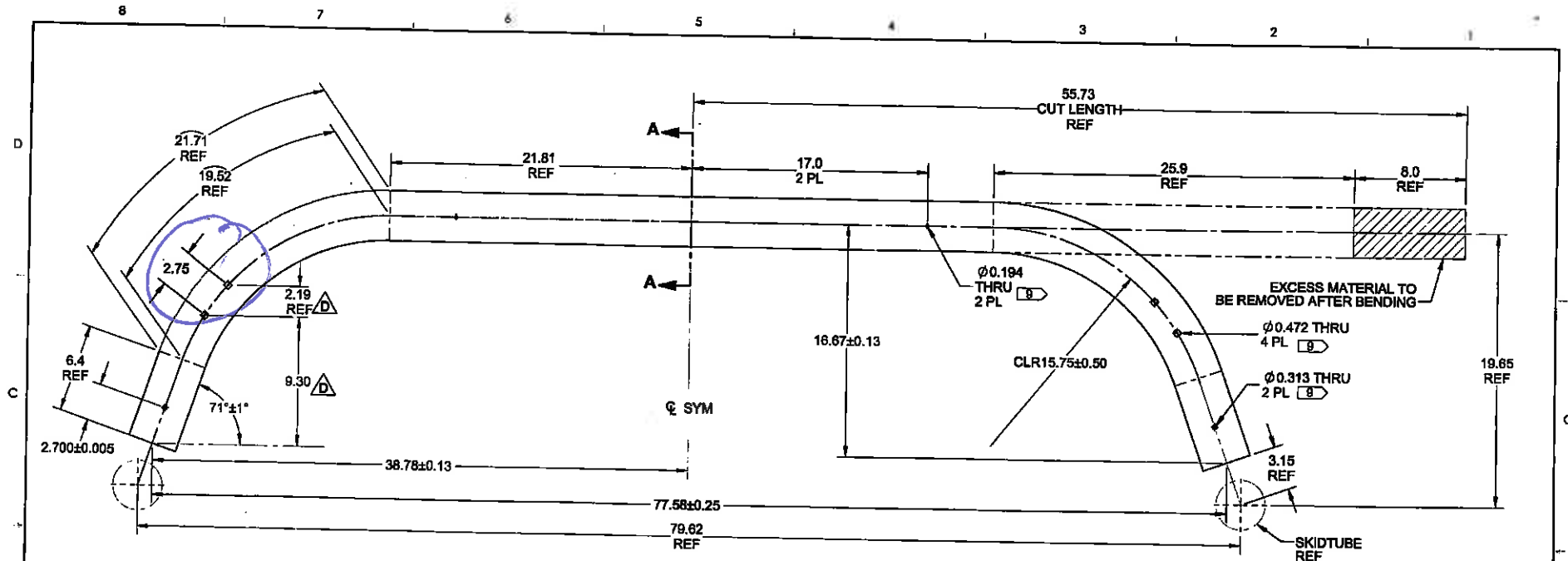
	IN	DIST5 - PNT4 TO PNT5 (XAXIS)				
AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	38.7900	0.1300	0.1300	38.7581	-0.0319	0.0000

[illegible]
$$Ff_b := 7388 \text{ lbf}$$
$$Ff := 1.15 \cdot Ff_b = 8496 \text{ lbf}$$
$$n := 4$$

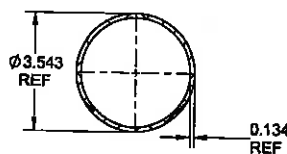
$t:=0.134$ in

$$A_{br} := n \cdot d \cdot t = 0.168 \text{ in}^2$$

$$F_{bru} := 98 \text{ ksi}$$
$$P_{bru} := F_{bru} \cdot A_{br} = 16441 \text{ lbf}$$
$$MS := \frac{P_{bry}}{Ff} - 1 = 0.94$$



D135-1027-151 STD HEIGHT FWD CROSSTUBE



RELEASED

2018 OCT 31
18-934

NOTES:

- 1) MATERIAL: MAKE FROM D8025-120
STRAIGHT LENGTH = 111.46 ±0.06 (BEFORE BENDING / TRIMMING)
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 13.88 lbs
- 8) MAX TWIST: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN CUFF HEIGHTS FROM THE SURFACE SHALL BE NO LARGER THAN 0.25.
- 9) HOLES TO BE ALIGNED WITHIN 0.005 IN RELATION TO THE HOLE ON OPPOSITE SIDE OF CROSSTUBE
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038. TO BE PERFORMED AFTER FINAL POST-BEND GRINDING. ANY ADDITIONAL GRINDING REQUIRES ANOTHER LPI INSPECTION.
- 12) MAXIMUM TUBE FLATTENING DUE TO BENDING IS 2% BASED ON OD.

D	MOVED STEP HOLES DIM 9.30 WAS 8.93	ZF	18.10.04
C	ZONE C2.3.15 DIM WAS 4.00. ACCORDINGLY 19.65 WAS 20.48 AND 19.62 WAS 20.18. REASON: D5424-1 SPACER DELETED FROM INSTALLATION.	ML	17.10.30
B	QTY (4) Ø0.472 WAS Ø0.313. 2.75 WAS 1.57. 8.93 WAS 9.80. REASON: DESIGN UPDATE	ML	17.05.25
A	NEW ISSUE	ML	17.01.31
REV.	DESCRIPTION	BY	DATE
DESIGN	ML		
DRAWN	ZF		
CHECKED	MW		
MFG. APPR.	DD		
APPROVED	ML		
DE APPR.	CP		
DATE	18.10.04		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.
D135-1027-151

REV. D
SHEET 1 OF 1

TITLE
STD HEIGHT FWD XTUBE

SCALE
NTS

COPYRIGHT © 2017 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

236



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB044044**



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

Attention: Jenne, Heather

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB044044
PO Date: 7/18/19
Due Date: 7/19/19
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	190568	D135-1027-253	Mid Height Aft Crosstube - DO NOT USE ISSUE P/O: _____ C OF C IS REQUIRED	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	190569		1 X JUL 19 2019	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
Sub Total:							2	0	2		\$239.00
2	191905	D135-1027-251	Std Height Aft Crosstube - DO NOT USE ISSUE P/O: _____ C OF C IS REQUIRED	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	191907		1 X JUL 19 2019	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
Sub Total:							2	0	2		\$239.00
3	190576	D135-1027-151	Std Height Fwd Crosstube - DO NOT USE ISSUE P/O: _____ C OF C IS REQUIRED	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	190575		1 X JUL 19 2019	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
Sub Total:							2	0	2		\$239.00

DAS
40
-89

7/19/2019

PURCHASE ORDER



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB044044



Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4	194644	D412-664-203	Aft Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA- 316/2015 15/06/17 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	194647		1 X JUL 19 2019	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	196270		1 X JUL 19 2019	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
	196271		1 X JUL 19 2019	Firmed	-	7/19/19	1 pcs	0 pcs	1 pcs	\$119.50/pcs	\$119.50
Sub Total:							4	0	4		\$478.00

Grand Total: \$1,195.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 7/19/19 1:28 PM Dart.Guerin.Kimberley

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO41122

Customer: Dart Aerospace Ltd.

Dept: NDT YUL

Reference: POHB044044 ✓

Descr:

PN:

S/N:

Qty: 1

Make:

Model:

Reg:

A/C S/N:

TSN:

CSN:

TSO:

Task: **UNSCHEDULED**

Sequence: 1

Work Required:

CARRY OUT NDT ON:

✓ 4 AFT CROSSTUBES , P/N: D412-664-203 , J/S: 194644 , 194647 , 196270 , 196271

✓ 2 STD HEIGHT FWD CROSSTUBES , P/N: D135-1027-151 , J/S: 190575 , 190576

DAS
40
9-89

✓ 2 STD HEIGHT AFT CROSSTUBES , P/N: D135-1027-251 , J/S# 191905 , 191907

✓ 2 MID HEIGHT AFT CROSSTUBES , P/N: D135-1027-253 , J/S: 190568 , 190569

Action Taken:

Date:

Initial/Stamp:

LPI C/O IAW ASTM E-1417M-16

NO CRACK FOUND

PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715
, UV LIGHT M-20142

JUL 19 2019



Description	Location	P/N	Qty	Batch	S/N Off	S/N On

RECEIVED

JUL 19 2019

DART AEROSPACE LTD.

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:

Name:

RAFIK MELIKIAN

ACA/SCA
Stamp

Date:

JUL 19 2019

Entered: JKDate: Oct 28/19NCR No. 19-7580

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

Route update only ☐

Job: <u>190575</u> Part No. <u>D135-1027-151</u>		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒		DEPARTMENT/PROCESS Skid-tube ☐ Machining ☒ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐																															
Date: <u>JUL 18 2019</u>		Sequence #: <u>138</u>		QTY Affected: <u>1</u>		MRB (QSI042)																													
Description Work Order Deviation				Disposition		<u>NO 19.07.17</u> Completed By DAS 40 9-89 10/18/2019 Lead hand / Supervisor DAS 47 17-09-05 9-89 QC / QA Coordinator DAS 68 DAS 40 9-89 10/18/2019 JUL 18 2019																													
Left side was 2.75 is 2.127 Right side was 2.75 is 2.845 (distance between two holes) Saddle hole 2.661, avg 2.700 ± 0.005 due to angled cut.				Entire saddle load can pass through saddle bolt w/o failure per attached assessment. Angled cut not critical to saddle/cross tube joint. Acceptable to engineering <i>9/17/17</i>																															
Root Cause Operator ☒ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY <table border="0"> <tr> <td>☐ Pressure/Forced</td> <td>☐ Contamination</td> <td>☐ Power Loss/Surge</td> <td>☐ Positioned Wrong</td> </tr> <tr> <td>☐ Bending</td> <td>☐ Misaligned/off center</td> <td>☐ Folio/Program</td> <td>☒ Outside Tolerance</td> </tr> <tr> <td>☐ Crushing</td> <td>☐ BOM/Route</td> <td>☐ Grain Direction</td> <td>☐ Drawing</td> </tr> <tr> <td>☐ Cracks</td> <td>☐ Broken/Damage/Defect</td> <td>☐ Weld</td> <td>☐ Finish</td> </tr> <tr> <td>☐ Crimp/Kink/Ripple/Wave/Twist</td> <td>☐ Incomplete/Unclear Instructions</td> <td>☐ Wrong Stock Pulled</td> <td>☐ Part Lost/Missing</td> </tr> <tr> <td>☐ Marks/Chatter</td> <td>☐ Drill Holes</td> <td>☐ Out of Sequence</td> <td>☐ Misread</td> </tr> <tr> <td>☐ Mislabeled</td> <td>☐ Fit/Function</td> <td>☐ Off-set/Set-up</td> <td></td> </tr> </table>						☐ Pressure/Forced	☐ Contamination	☐ Power Loss/Surge	☐ Positioned Wrong	☐ Bending	☐ Misaligned/off center	☐ Folio/Program	☒ Outside Tolerance	☐ Crushing	☐ BOM/Route	☐ Grain Direction	☐ Drawing	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Finish	☐ Crimp/Kink/Ripple/Wave/Twist	☐ Incomplete/Unclear Instructions	☐ Wrong Stock Pulled	☐ Part Lost/Missing	☐ Marks/Chatter	☐ Drill Holes	☐ Out of Sequence	☐ Misread	☐ Mislabeled	☐ Fit/Function	☐ Off-set/Set-up	
☐ Pressure/Forced	☐ Contamination	☐ Power Loss/Surge	☐ Positioned Wrong																																
☐ Bending	☐ Misaligned/off center	☐ Folio/Program	☒ Outside Tolerance																																
☐ Crushing	☐ BOM/Route	☐ Grain Direction	☐ Drawing																																
☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Finish																																
☐ Crimp/Kink/Ripple/Wave/Twist	☐ Incomplete/Unclear Instructions	☐ Wrong Stock Pulled	☐ Part Lost/Missing																																
☐ Marks/Chatter	☐ Drill Holes	☐ Out of Sequence	☐ Misread																																
☐ Mislabeled	☐ Fit/Function	☐ Off-set/Set-up																																	
		Other/Details:																																	